

# OC 679 - Acoustical Oceanography

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Date	Topic	Required Readings	Optional Readings
8-Jan	Introduction to acoustics I		
10-Jan	Introduction to acoustics II	2.1, 2.2 MacLennan and Simmonds; 2 Medwin and Clay	
15-Jan	Sound propagation, transmission, attenuation, refraction	2.4 MacLennan and Simmonds	
17-Jan	Sources and receivers (start building transducer)	2.3 MacLennan and Simmonds, 4 Medwin and Clay	
22-Jan	Calibration (finish building a transducer)	3.7 MacLennan and Simmonds	Foote et al 2005
24-Jan	Transducer lab		
29-Jan	Using passive acoustics to study marine mammals	Thode 2004, Nosal and Frasier 2006	
31-Jan	Sonar equation, Scattering from a body	2 Urick, 2.5 MacLennan and Simmonds	
5-Feb	Backscatter from physics, microstructure	Lavery et al 2010	Lavery et al 2003, Ross and Lueck 2003, Ross et al 2004
7-Feb	Doppler sonars	3.6 Medwin and Clay, Brierley et al 1998	Ressler 2002
12-Feb	Waveguides	Kuperman and Lynch 2004	
14-Feb	Sounds in the sea (ship noise, snapping shrimp, etc, raindrops)	Nystuen 1996, Versluis 2000	
19-Feb	Seafloor mapping	deMoustier 1986	
21-Feb	Subseafloor acoustics	Walree et al 2006	
26-Feb	Zooplankton and fish as targets	Holliday et al 1999, Warren 2012	
28-Feb	Acoustic daylight, other passive acoustic techniques	Epifanio et al 1999, McMichael et al 2011	
5-Mar	Biosonar and other uses of sounds by animals	Au et al 2004, Lammers et al 2006, Johnson et al 2004	
7-Mar	Waveguides II	Worcester et al 1999, Makris et al 2006	
12-Mar	Hearing in animals	Yuen et al 2005, Wilson and Dill 2002	
14-Mar	Permitting issues	DeRuiter et al 2006, Au et al 1997, Cox et al 2006	